

STUDIES ON THE GENUS *PROSTHOPORUS*
(HYMENOPTERA : ICHNEUMONIDAE)

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Prosthoporus was described by Porter (1976) by a single female from Bolivia. Additional specimens of this genus in the Townes Collection revealed several undescribed species from South America. They are described below. The taxonomic placement of the genus is also discussed.

Genus **PROSTHOPORUS**

Prosthoporus Porter, 1976. *Psyche*, 83: 271-276. Type-species:

Prosthoporus terani Porter. Monotypic and original designation.

Fore wing 4 to 12 mm long. Body slender. Frons without a median horn or carina, smooth and shiny or weakly shagreened to finely striate. Subapical antennal segments flattened. Clypeus moderately large, its basal half convex and apical half flattened, its apical margin concave without a median tooth. Mandible 2.2x as long as its basal width; its lower tooth strong, slightly shorter than the upper tooth or nearly equal. Temple flat. Occipital carina touching or not touching the hypostomal carina. Pronotum finely striate to smooth. Epomia present though weak. Sternaulus very weak and shallow, hardly reaching 0.5 its length. Prepectal carina usually less than 0.6 its length. Hind margin of metanotum without any projection on each side of metascutellum. Area between metascutellum and propodeum long, gently sloping and shagreened. Propodeum elongate, gently and evenly arched in profile view. Propodeal spiracle oval to elongate. Pleural carina absent. Basal transverse carina straight and sharp. Apical transverse carina completely absent, apophysis or crest absent. Propodeum transversely striate, basal area shagreened to granulate. Areolet of moderate size, rectangular, about 0.6 as high as section of second recurrent vein above bulla, about 1.7 as wide as high, receiving second recurrent vein before or after the middle. Second intercubitus weak and hardly visible medially. Ramellus absent. Nervulus opposite or basad of basal vein by about 0.25 its length. Nervellus intercepted at its apical 0.4 or at the middle. Brachiella absent. Fore tibia in female moderately swollen and with some usually strong and sparse, spine-like setae in addition to normal dense hairs. Fore tarsus in female with fourth segment deeply to weakly bilobed apically. Abdomen shagreened. First tergite moderately long and slender, its spiracle at its basal 0.4, without any lateral tooth at base, without longitudinal carinae, its sternite about 0.3 its length. Second tergite basally with or without a few punctures. Ovipositor slender, moderately compressed, of variable length. Ventral valve of ovipositor with strong, oblique to vertical ridges and with a dorsal lobe that partially encloses the upper valve.

Geographical distribution and host associations: *Prosthoporus* was so far known from Bolivia. It is now recorded from Brazil, Ecuador, Panama and Peru in Central and South America. The hosts are unknown.

AFFINITIES OF PROSTHOPORUS

Prosthoporus was described under the subtribe Lymeonina. No doubt it shares some of the characters of the Lymeonine genera, like the lower tooth of mandible shorter than the upper, and the fourth tarsal segment of the female fore tarsus usually deeply bilobed. However, these characters are also present in some other species of Gabuniini, like *Pharzites nigritarsis*, *Apocryptus terebratus*, *A. chinensis* and *Schreineria taiwana* having the lower tooth of mandible equal to or shorter than the upper, and *Xoridesopus maculatus*, *X. striatus* and species of *Cestrus* having the fourth segment of female fore tarsus bilobed. *Prosthoporus* appears more related to the Gabuniini, particularly by the following combination of characters: Spiracle of first tergite at its basal 0.4, tip of lower valve of ovipositor with a dorsal lobe that partly encloses the upper valve, shape of the areolet, inflated fore tibia of female, propodeal apophyses usually absent, and first tergite without median dorsal carinae. Therefore the genus *Prosthoporus* is transferred to the Gabuniini.

Within the Gabuniini, the genus *Prosthoporus* shows affinities with *Gabunia*, *Torbda* and *Agonocryptus*. It is distinguished from *Gabunia* by the rectangular areolet, from *Torbda* by the absence of the transverse ridge and apical tooth on the clypeus, and from *Agonocryptus* by its weak sternaulus, shorter lower mandibular tooth, absence of brachiella, absence of apical transverse carina of propodeum, sculpture of propodeum, and by its long excavated and shagreened area between the metanotum and propodeum.

KEY TO THE SPECIES OF PROSTHOPORUS

1. Thorax and abdomen reddish-brown, with white marks and bands. Pronotal groove finely striate. Frons granulate or finely striate. Malar space 0.5 or more its basal width. Length of ovipositor equal to the length of hind tibia 2
 - Thorax brownish-red with abdomen black, with yellow bands. Pronotal groove smooth and shiny. Frons usually smooth. Malar space 0.25 to 0.4 its basal width. Ovipositor much longer than the length of hind tibia (equal in *P. terani*) 3
2. Frons granulate. Wings banded. Face as wide as high. Brazil 1. *townesi*, n. sp.
 - Frons finely striate. Wings not banded. Face wider than high. Brazil 2. *striatifrons*, n. sp.
3. Clypeus shiny. Mandible with fine punctures. Yellow orbital ring complete. Hind femur yellow. Trochanters of hind leg yellow. 4th tarsal segment of hind leg yellow 4
 - Clypeus dull. Mandible mat. Yellow orbital ring incomplete. Hind femur black. 4th tarsal segment of hind leg black. Brazil, Ecuador and Peru 5. *nigrifemur*, n. sp.
4. Metapleurum and first abdominal tergite shiny. Ovipositor 1.1 as long as hind tibia. Scutellum wholly brownish-red. Malar space 0.4 the basal width of mandible. Tip of abdomen black or with a fine yellow line. Sternites 5 and 6 with black marks. Bolivia 6. *terani* Porter

Metapleurum and first tergite dull granulate. Ovipositor 1.3x as long as hind tibia. Scutellum wholly yellow or only its sides yellow, not brownish-red. Malar space 0.25x the basal width of mandible. Tip of abdomen marked with white. Sternites 5-6 white 5

5. Nervulus basad of basal vein by 0.25 its length. Face with a black mark just above the clypeal groove. Frons, vertex, temple, scape and basal flagellar segments black. Thorax and propodeum without any marks. Scutellum laterally yellow. Panama 3. *panamensis*, n. sp.
Nervulus opposite basal vein. Face yellow, without any black marks. Frons, vertex, temple, scape, and basal flagellar segments brownish-red. Scutellum, a mark below wings and a semicircular mark on the apical slope of propodeum, yellow. Brazil 4. *marjoriae*, n. sp.

1. *Prosthoporini townesi*, n. sp. (Fig. 4)

Female: Face granulate with a few fine punctures just above the clypeus, as wide as high. Clypeus granulate, its apical margin concave. Malar space granulate, 0.6x the basal width of mandible. Temple mat. Frons granulate. Vertex shiny mat, with fine punctures. Pronotum shiny mat, its groove finely striate. Mesoscutum shiny mat. Prepectal carina 0.6x its length. Scutellum shiny. Mesopleurum and metapleurum granulate with fine trans-striae. Nervulus basad of basal vein. Second recurrent vein meeting areolet at its apical 0.4. Abdomen mat, second tergite granulate with fine punctures sub-apically. Length of ovipositor equal to the length of hind tibia.

Reddish-brown. Head reddish-brown, flagellar segments 1-4 black, 5-10 white, and rest black. Base of mandible, base of clypeus, and orbital mark on frons and face, whitish-yellow. Pronotal collar, tegula, subtegular ridge, scutellum, a mark on hind corner of mesopleurum and a transverse mark on the apical area of propodeum (extending to 0.5 the width of metapleuron), whitish-yellow. Wings hyaline with subapical and median brown bands. Fore leg yellowish-brown, its apical tarsal segments darker. Middle leg reddish-brown, tibia black, its basal end whitish, basal tarsal segment white, rest black. Hind coxa reddish-brown, trochanters and femur brown, tibia black, its basal end whitish, basal tarsal segment white, rest black. Abdominal tergites 1-3 and 7 apically white. The rest apicolaterally white. Sternites 2-4 brown, last broadly white.

Male: Unknown.

Length: 11 mm. Fore wing 8 mm. Ovipositor 4 mm.

Holotype: Female, Brazil: Represa Rio Grande, Guanabara. No.v 1966, M. Alvarenga (Townes). *Paratype*: 1 F, same locality as the holotype, Aug. 1969, M. Alvarenga (Townes).

Distribution: Brazil.

2. *Prosthoporini striatifrons*, n. sp.

Female: Face granulate with fine punctures, wider than high. Clypeus granulate basally and shiny apically, its margin concave. Malar space granulate, 0.5x the basal width of mandible. Temple mat with scattered fine punctures. Frons shiny with fine trans-striae. Vertex shiny, mat, with fine punctures. Pronotum shiny, mat, with fine striae in its groove. Mesoscutum

dull mat. Prepectal carina 0.6x the height of mesopleurum. Scutellum shiny. Mesopleurum and metapleurum granulose with fine transverse striae, sometimes striae a little irregular. Nervulus basad of basal vein. Second recurrent vein meeting areolet at its middle. Abdomen shiny, mat. Second abdominal tergite granulose. Length of ovipositor equal to the length of hind tibia.

Reddish-brown. Color essentially same as of *P. townesi*, but without brown bands on the fore wing. Tibia of middle leg, trochanters and femur of hind leg, and sternites 2-4 lighter in color.

Male: Essentially similar to the female but frons dull mat, without any striations, pronotal groove striate to almost smooth, mesopleurum and metapleurum granulose to finely granuloso-striate, and nervulus opposite basal vein.

The color of male is rather different from that of the female. Black, face (except clypeal groove, a mark in the center of face, tip of mandibles, frons and vertex), yellow. Pronotal collar, a line on upper margin of pronotum, tegular, subtegular ridge, scutellum, a small mark on speculum, a mark on lower corner of mesopleurum a mark below wing, a mark on apical area of metapleurum and a mark on apical side of propodeum towards metapleuron, yellow. Wings hyaline. In fore and middle legs coxa, first trochanter and tarsal segments yellow, second trochanter femur and tibia brownish-yellow. Hind coxa black apically with yellow mark, trochanters black, hind femur, tibia and basal tarsal segment brown except tibia basally yellowish, 2-4 tarsal segments yellow. Abdominal tergites 1-5 with yellow apical band.

Length: F, 7-12 mm. Fore wing 5-8.5 mm. Ovipositor 4.5 mm.

Holotype: Female, Brazil: Pedra Azul, M. G., Nov. 1970, F. M. Oliveira (Townes). *Paratypes*: 5 M., Brazil: same locality as the holotype, Nov. 1972, Alvarenga and Seabra (Townes).

Distribution: Brazil.

3. *Prosthoporus panamensis*, n. sp. (Fig. 7)

Female: Face mat with a few fine punctures, slightly wider than high. Clypeus shiny mat with a few punctures basally, its apical margin concave. Malar space granulose, 0.25 the basal width of mandible. Mandible stout, punctate at base. Temple shiny mat with a few fine punctures at its upper corner. Mesoscutum and scutellum shiny. Prepectal carina 0.6x its length. Mesopleurum and metapleurum granulose with fine striations in between. Nervulus basad of basal vein. Second recurrent vein meeting areolet at its apical 0.4. Abdomen mat, second tergite granulose with a few fine punctures. Length of ovipositor much longer than the length of hind tibia (1.3).

Thorax brownish-red, abdomen black with yellow stripes. Head black with yellow marks. Flagellar segments 4-9 white. Face clypeus, base of mandible and orbital ring white. Clypeal fovea, a mark on the center of face above the clypeus, black. Apical slope of clypeus with a brown mark. Thorax brownish-red only sides of scutellum yellowish. Wings hyaline. Fore and middle legs of same color as the thorax, tarsal segments only slightly darker. Hind leg brownish-red, femur apically brownish black. Hind tibia black, basally brownish-red. Tarsal segments 1-4 white, basal segment basally black. All abdominal tergites black with apical white band, basal 0.5 of first tergite brownish-red. Tergite 8 with an elongated white mark. All abdominal sternites apically white.

Male: Rather similar to the female, but smoother mesopleurum and metapleurum without fine striations. Nervulus opposite basal vein.

Black with yellow marks. Head yellow except apex of mandibular teeth, frons medially and vertex. Pronotal collar, upper margin of pronotum, tegula, subtegular ridge, mark on mesothorax, scutellum, speculum, lower portion of mesopleurum, mesosternum, a large mark below wing, metapleurum, and a small mark on apical part of propodeum towards metapleurum, yellowish-white. Wing hyaline. Legs brownish-yellow. Fore coxa and trochanters white. Middle tarsal segments brown. Hind trochanters, tibia and basal tarsal segments brown. Abdomen black with white apical bands.

Length: F, 8-14 mm. Fore wing 5.0-9.5 mm. Ovipositor 7 mm.

Holotype: Female, Panama: Darien, 1967, C. A. Triplehorn (Townes).

Paratype: M Panama: Sta. Clara Chiriqui, M, May 31, 1977. H. A. Howden (Townes). 1 M, same data as the holotype (Townes).

Distribution: Panama.

A male from Brazil in D.P.I. Coll. probably belongs here.

4. *Prosthoporus marjoriae*, n. sp. (Fig. 6)

Female: Face mat, slightly wider than high. Clypeus shiny mat, its apical margin slightly concave. Malar space mat, 0.25x the basal width of mandible. Mandible with fine punctures. Temple shiny. Frons smooth and shiny. Vertex smooth and shiny, not punctate. Pronotum shiny mat, striations absent in the groove. Mesoscutum shiny mat. Prepectal carina 0.5x its length. Scutellum smooth and shiny. Mesopleurum and metapleurum granulose, with only a few fine striations along metapleural fold. Nervulus almost opposite basal vein. Second recurrent vein meeting areolet at its middle. Abdomen mat. Second abdominal tergite granulose without punctures. Length of ovipositor 1.3x as long as the length of hind tibia.

Body brownish-red, abdomen black with yellow bands. Scape and first flagellar segment brownish-red. Flagellar segments 4-8 yellow, rest brownish-black. Head brownish-red. Face, clypeus, base of mandible and orbital ring yellow. Tegula, subtegular ridge, scutellum and an inverted v-shaped mark on the apical slope of propodeum, yellow. Wings hyaline. Fore and middle legs yellowish-brown, only tarsal segments a little darker. Hind coxa and femur brownish-red, trochanters brown. Hind tibia black its basal 0.3 yellowish brown. Hind tarsal segments white. Tergite 2-8 black with apical yellow band. First tergite brownish-red with apical yellow band. Tergite 8 with elongated yellow mark. Sternites 5-6 yellow.

Male: Unknown.

Length: 14 mm. Fore wing 10 mm. Ovipositor 7 mm.

Holotype: Female, Brazil: Caruaru, 900 m., April 1972, M. Alvarenga (Townes).

Distribution: Brazil.

5. *Prosthoporus nigrifemur*, n. sp. (Fig.5)

Female: Face granulate with fine punctures laterally. Face as wide as high or slightly wider. Clypeus dull granulate. Malar space granulate, 0.25 or less than the basal width of mandible. Mandible mat, without fine punctures. Mandibular teeth almost equal to lower tooth shorter. Temple frons and vertex dull mat without fine punctures. Pronotum dull mat without fine striations. Mesoscutum mat. Scutellum shiny mat with a few superficial punctures. Prepectal carina 0.6x its length. Mesopleurum and metapleurum granulate. Propodeum transversely striate but sometimes striations weaker medially. Nervulus basad of basal vein, second recurrent vein meeting areolet at its basal 0.4 to apical 0.4. Abdominal tergites mat. Ovipositor 1.3x as long as the length of hind tibia.

Body brownish red, abdomen black with white stripes. Scape and flagellar segments black except 5-7 white. Head black, except face laterally, clypeus, base of mandible and a line on the frons along the eye margin, yellow. Thorax without mark. Wings hyaline. Fore and middle legs, body colored except tarsal segments a little darker. Hind coxa and trochanters brownish red, femur black. Hind tibia black, its basal 0.3 yellowish-brown. Tarsal segments 1-3 white, basitarsus basally black. Tarsal segment 4th and claws black. Abdominal tergites 1-7 with white apical bands sometimes 8th also. Tergite one basally brownish-red, medially black, sometimes. Abdominal sternite laterally black.

Male: Similar to female. Black face, clypeus mandibles except apex, malar space, and a line on frons along eye margin, whitish-yellow. Pronotal collar, tegula, subtegular ridge, scutellum, speculum, a mark on hind corner of mesopleurum, mesosternum and upper half of metapleurum whitish-yellow. Wings hyaline. Fore and middle, coxa and trochanters white; femur and tibia yellowish-brown ventrally and brown dorsally; trochanters brownish-black. Femur yellowish-brown, apically brown. Tibia and tarsus brown, tibia yellowish-brown basally. Abdomen brownish-black, tergite 1-6 apically with white stripe.

Variations: This species shows variations. The size of mandibular teeth, which are equal or the lower tooth distinctly shorter. The junction of second recurrent vein with the areolet also varies in position. The propodeal striations are moderately strong to weak.

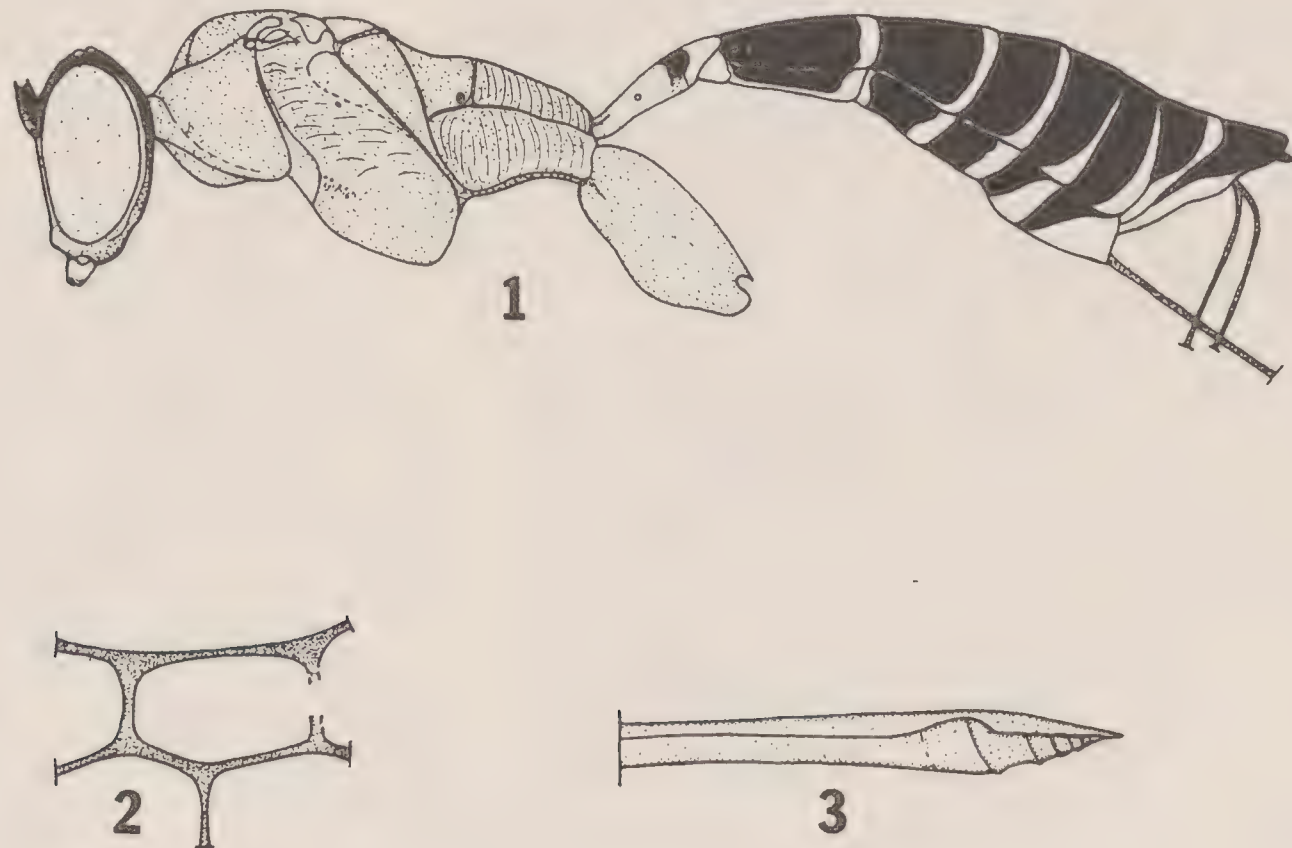
In females, the color of first abdominal tergite is almost black to only sub apically black. One species from Mangaratiba, the mesoscutum is black. Similarly in males, the yellow mark on metapleurum may be large or small and the color of the hind tarsal segments is yellow to black.

Length: F, 8-10 mm. Fore wing 6-8 mm. Ovipositor 4.0-4.5 mm.

Holotype: Female, Brazil: Represa Rio Grande, Guanabara, Dec. 1967, M. Alvarenga, (Townes). *Paratypes*: 2 F and 16 M, Brazil: same locality as holotype 1 M Dec. 1967; 1 M, Aug. 1969; 3 M, Sept. 1969, all collected by M. Alvarenga. Rio de Janeiro, 1 M, March 7, 1966, H. and M. Townes. Teodoro Sampaio, 1 M, Nov. 1977; Bahia, Encruzilhada, 980 m, 2 M No. 1974, M. Alvarenga, Mangaratiba, Muriqui R. D. J., 1 F, July 1969; Silva Jardim, R. de J., 1 F, 2 M, Aug. 1974. F. M. Oliveira. Amazonas, 71° 38' W, 4° 33' S,

3 M, Sept. 1979, Alvarenga. Peru: Quincemil, 750 m, nr. Marcapata, 1 M, Nov. 1962, Luis Pena. Ecuador: Coca, 1 M, May 1965, Luis Pena (Townes).

Distribution: Brazil, Peru and Ecuador.



Figs. 1-3. *Prosthoporus terani* Porter.

1, Lateral view showing habitus and color pattern. 2, areolet. 3, ovipositor tip.
(After Porter)

6. *Prosthoporus terani* Porter

Prosthoporus terani Porter, 1976. Psyche, 83: 274. F. des., fig.

Type: F, Bolivia: Santa Cruz (DPI, Gainesville). Type examined.

Female: Face mat, slightly wider than high. Clypeus shiny mat, its apical margin slightly concave. Malar space mat, 0.4 the basal width of mandible. Mandible with fine punctures. Temple shiny mat. Frons and vertex shiny, with some weak shagreening. Pronotum shiny mat, without striations. Scutellum smooth and shiny. Mesopleurum shiny mat. Metapleurum smooth and shiny. Nervulus basad of basal vein. Second recurrent vein meeting areolet at its basal 0.4. All abdominal tergites shiny mat. Length of ovipositor 1.1 as long as the length of hind tibia.

Body brownish-red, abdomen black with white bands. Scape and flagellar segment 1-3 blackish-brown, 4-9 white, and rest brown. Face clypeus, mandibles and orbital ring, yellow except a mark in the center of face above clypeus and clypeal grooves yellowish-brown. Frons black. Vertex black, medially brownish-red. Wings hyaline. Fore and middle legs body colored only, claws a little darker. Hind coxa, trochanters, femur of body color, apical 0.3 of tibia black, tarsus white. All abdominal tergites black with white apical bands except first tergite which is basally and medially brownish-red. Tergite 8 with a fine white line at its apical margin. Sternites 5-6 with black marks.



Distribution of species of *Prosthoporos*

Male: Unknown.

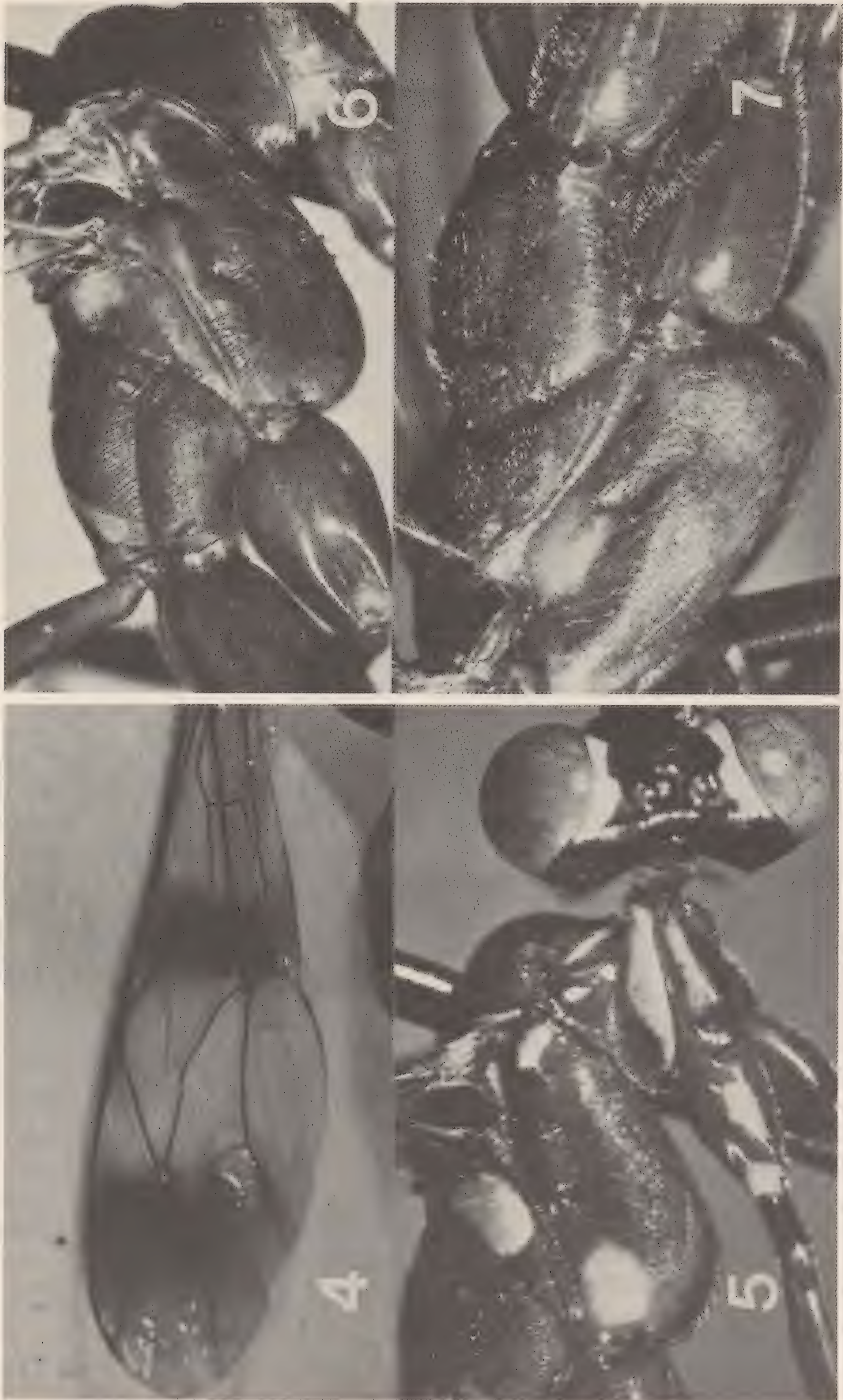
Length: 12 mm. Fore wing 9 mm. Ovipositor 5 mm.

Specimen examined: Bolivia: Santa Cruz: General Saavedra Estacion Experimental Agricola, 1 F (type), Nov. 1973, in Malaise trap, C. C. Porter (Gainesville).

Distribution: Bolivia.

REFERENCES

- Porter, C. C. 1976. *Prosthoporos*, a New Bolivian Genus of the subtribe Lytheonina. (Hymenoptera, Ichneumonidae). *Psyche* 83: 271-276.
- Townes, H. 1970. The genera of Ichneumonidae. Part 2. *Mem. Amer. Ent. Inst.* 12: 1-537. (Gabuniini, pp. 325-344).



Figs. 4-7.. 4, Fore wing of *Prosthoporus townesi*. 5, Head and thorax of *P. nigrifemur* showing color pattern. 6, Side view of thorax of *P. marjoriae*. 7, Side view of thorax of *P. panamensis*.